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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROMEO, DAVID S	
ART UNIT	PAPER NUMBER
1647	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/654,994	FERGUSON, MARK W.J.	
	Examiner	Art Unit	
	David S. Romeo	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,21,23,25-27 and 29-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,21,23,25-27 and 29-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *20,21,23,25-27 and 29-33* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *0807*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/01/2007 has been entered.

Claims 20, 21, 23, 25–27 and 29–33 are pending. Claim 23 has been rejoined for examination to the extent that it is directed to or encompasses a partially modified form of activin that comprises activin. Applicant timely traversed the restriction (election) requirement in the reply filed on 07/17/2006. Claims 20, 21, 23, 25–27 and 29–33 are being examined to the extent that they are directed to or encompass the elected species activin.

Maintained Formal Matters, Objections, and/or Rejections:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 21, 25 and 29–33 are rejected under 35 U.S.C. 102(e) as being anticipated by Mitrani (U. S. Patent No. 5,753,612).

Mitrani's activin appears to be identical or substantially identical to the activin used in the present claims. Therefore, the claimed properties or functions, i.e., "bind receptors similar to hose bound by TGFβ3" (claim 31), are presumed to be inherent, and a prima facie case of either anticipation or obviousness has been established.

Claim 32 is directed to the administration of activin by "eye drops." However, the claims do not require that the activin administered by eye drops be administered to the eye. The "eye drops" limitation of claim 32 only limits the form of the composition administered and not the route or site of administration. Neither the specification nor the claims limits the form of the "eye drops."

Mitrani discloses:

> In one embodiment, the biologically active ingredient contained in the preparations is in the range of 3 to 300 ng per gram preparation, though higher or lower amounts might also be effectively employed. (Column 16, full paragraph 3).
>
> The activin agonist formulations using the method of the invention are most preferably applied in the form of appropriate compositions. …The pharmaceutically acceptable carrier should be substantially inert, so as not to act with the active component. Suitable inert carriers include water… . (Column 16, full paragraph 4).
>
> …an effective amount of the particular activin agonist as the active ingredient is combined in intimate admixture with a pharmaceutically acceptable carrier, which carrier may take a wide variety of forms depending on the form of preparation desired for administration. These pharmaceutical compositions are desirable in unitary dosage form suitable, particularly, for administration orally, rectally, percutaneously, or by parenteral injection. For example, in preparing the compositions in oral dosage form, any of the usual pharmaceutical media may be employed such as, for example, water… . …For parenteral compositions, the carrier will usually comprise sterile water… . Injectable solutions, for example,

> may be prepared in which the carrier comprises saline solution, glucose solution or a mixture of saline and glucose solution.(Paragraph bridging columns 16-17).

Administration of activin in water or saline topically, orally, rectally, percutaneously, or by parenteral injection is administration by eye drops, as recited in claim 32 and in the absence of evidence to the contrary.

Mitrani also discloses:

> In preferred embodiments, the activin agonist preparations of the present invention are formulated for topical or subcutaneous application. Preferably, the preparations are in the form of an aqueous gel, water-dispersible lotion, or other pharmaceutically acceptable carriers, in the form of paste, tape or film support, or subcutaneous implants, preferably for the sustained release of the active ingredient. (Column 6, full paragraph 2).

> …use may be made of covers, e.g. plasters, bandages, dressings, gauze pads and the like, containing an appropriate amount of a composition as referred hereinabove. In some cases use may be made of plasters, bandages, dressings, gauze pads and the like which have been impregnated or sprinkled with a topical formulation containing the activin agonist, e.g. with an aseptic aqueous solution, or strewn with a powdery solid composition, or smeared, covered or coated with a semi-liquid composition. (Column 20, full paragraph 4).

Accordingly, Mitrani discloses administration of activin wherein the activin is present in a bandage or implant, as recited in claim 33.

Applicant argues that:

> As pointed out previously, it was a new and non-obvious finding on the part of Applicant that Activin can be used to promote healing with reduced scarring. The effects of Activin on scarring are dose dependent. That is, different doses have markedly different effects on scarring. The doses described in the present specification all have beneficial effects on scarring (when assessed either macroscopically or microscopically). As previously discussed by Applicant, the doses considered by Mitrani are far higher than those shown by Applicant to promote healing with reduced scarring. The doses suggested by Mitrani would actually increase scarring.
>
> The Examiner is reminded that Mitrani suggests that activin should be used in a dose range of between 0.001mg/kg and 50mg/kg body weight; preferred

dose ranges of activin are stated to be between 0.01mg/kg and 10mg/kg body weight.

The studies described in the instant application utilized rats weighing between 200g and 250g. These were treated with one of three separate regimes:

i) three administrations, each of 2.5ng;
ii) three administrations, each of 5ng; or
iii) three administrations, each of 10ng.

Thus, in the lowest dosing regime, a total of 7.5ng of activin was administered per rat, and in the highest dosing regime, a total of 30ng of activin was administered per rat. These totals, respectively, correspond to between 34.1 and 30ng/kg body weight (depending on size of rat) and between 136.4 and 120ng/kg body weight.

Applicant again emphasizes that these doses are considerably lower than those suggested in Mitrani. The lowest dose considered by Mitrani corresponds to 1 μg/kg, and the lowest preferred dose to 10 μg/kg. In contrast, the highest dose shown by Applicant to reduce scarring is 0.136 μg/kg (about one eighth of the lowest suggested by Mitrani), and the lowest dose is only 0.03 μg/kg (just 3% of the lowest dose suggested by Mitrani). The skilled person following the teachings of Mitrani would not have arrived at a scar-reducing dose of Activin, as required by the instant invention.

As Applicant noted previously, doses in the range of those suggested by Mitrani have been shown to be pro-scarring, rather than anti-scarring. By way of example, transgenic mice that over-express Activin A in the basal epidermis (calculated to lead to between 20 and 150 ng activin/ml blood - Munz et al 1999) exhibit enhanced scarring in response to full thickness excisional wounds (unpublished data from Munz et al, and described in Wankell et al 2003, and Sulyok et al 2004 - copies attached).

The Examiner's attention is respectfully directed to the disclosure at page 128 of Sulyok et al, particularly, that under heading 2. This reports on the results of wound healing studies undertaken in transgenic mice over-expressing Activin (under the control of a keratin promoter). In particular, the final paragraph under heading 2 notes:

> "After skin injury, a striking enhancement of the healing process was observed. In particular, the area of granulation tissue was more extended, and an increase in reepithelialisation was also seen in most of the animals (Munz et al., 1999b). Unfortunately, however, the accelerated healing process resulted in enhanced scarring ... Thus, enhancing the levels of activin in the wound increased the speed of healing, but impaired the quality of repair." (Emphasis added.)

Applicant submits that this passage, when taken in combination with the results set out in the specification of the instant application, clearly illustrates that the effect of Activin on scarring is dose-dependent, being anti-scarring at low dose

and pro-scarring at high dose (it should be noted that, in this context, all doses considered in the present application should be considered to be "low doses", as compared to the "high doses" suggested in the prior art and achieved in the cited papers).

The Examiner is reminded that rats of 200 to 250g weight have an average blood volume of approximately 13.5mls. Thus, rats treated with regime (iii) above can be expected to achieve a total accumulation of 2.22ng Activin/ml blood (based on administration of a total of Activin 30ng activin, and assuming no breakdown of activin). This figure (for the highest dose regime contemplated by Applicant) is approximately one tenth of the lowest value reported by Munz et al in mice exhibiting increased scarring. In turn, the lowest concentration of Activin reported by Munz et al (approximately ten times that established by regime (iii)) is generally comparable with that arising from the lowest dose considered by Mitrani (approximately eight times that established by regime (iii)).

It will be clear from above and attached publications that an artisan, following the teachings of Mitrani, would not have arrived at the subject matter of the present claims (e.g., use of Activin in an amount sufficient to reduce scarring) but would, in fact, have been led to use amounts of Activin that would increase scarring. Accordingly, reconsideration is requested.

Applicant's arguments have been fully considered but they are not persuasive.

It is noted for the record that Experiment 2 indicates that the rats used weighed between 220g and 250g.

Applicant's assertion that the doses suggested by Mitrani would actually increase scarring is based on an indirect comparison of the dose of exogenous activin taught by Mitrani with a dose of endogenous activin in a transgenic mouse model that overexpresses activin A. However, the transgenic animal is continuously and chronically exposed to the activin over the life of the animal. All of Munz's (EMBO J. 1999 Oct 1;18(19):5205-15) experiments were performed with adult mice (10–14 weeks of age) (page 5207, paragraph bridging left and right columns). Furthermore, the skin in these animals was histologically abnormal (Abstract). There is no evidence of record that continuous and chronic exposure to activin in utero and for 10-14 weeks thereafter is comparable to a single administration or even a few administrations over

several days to an adult mammal not previously exposed to activin. Therefore, the argument that the doses considered by Mitrani promote scarring is not persuasive because the continuous and chronic exposure to activin in Munz's transgenic animal is different from the activin exposure in Mitrani's method and different from the activin exposure disclosed by applicant, and the effects of activin on scarring are dose dependent, as noted by applican.

Furthermore, there has been no direct comparison of the application of the doses of exogenous activin suggested by Mitrani with the doses of exogenous activin taught in the examples of the present application.

It is further noted that in the present application "[f]our 1 cm linear full thickness (down to and including the panniculus carnosus) incisions were made at defined anatomical positions 5 cm and 8 cm from the base of the skull, and 1 cm each side of the midline. Of the four wounds per animal, two were treated with a 100 μL dose of Activin A, one with 100 μL of PBS, and the other remained unmanipulated. All injections were intradermal, approximately 50 μL delivered down each side of the incision as close as possible to the wound without rupturing it, and were administered once daily for three days, starting immediately prior to wounding (Day 0)" (specification, page 11). Thus, it appears that each incision received two doses of activin, there were two incisions treated with activin per animal, and therefore the total doses administered were twice the amount asserted by applicant to have been administered in the response filed 08/22/2007. Furthermore, as noted above, the activin was administered intradermally. While an intravenous injection might be expected to initially deliver all the activin to the bloodstream, there is no basis in the record for asserting that an intradermal injection would initially deliver all the activin to the bloodstream such that a blood concentration of 2 x 2.22ng Activin/ml blood

would be achieved. Although the activin pathologically over-expressed in stratified epithelia in Munz's (EMBO J. 1999 Oct 1;18(19):5205-15) transgenic animal enters the bloodstream (page 5207, left column), there does not appear to be any basis in the record for implying or suggesting that all the activin that would be administered to the bloodstream would enter the stratified epithelium or skin and achieve a level or concentration comparable to the blood level that would be achieved upon the initial administration of the activin to the bloodstream.

Furthermore, Mitrani discloses "activin agonist preparations …formulated for topical or subcutaneous application" (column 6, full paragraph 2), activin preparations containing 3 to 300 ng of activin per gram preparation, though higher or lower amounts might also be effectively employed (column 16, full paragraph 3), and "…an effective amount of the particular activin agonist as the active ingredient is combined in intimate admixture with a pharmaceutically acceptable carrier, which carrier may take a wide variety of forms depending on the form of preparation desired for administration (paragraph bridging columns 16-17). Therefore, Mitrani discloses the administration of activin preparations containing 3 to 300 ng of activin per gram preparation, which overlaps the total doses of activin administered by applicant.

In the absence of evidence to the contrary, the dose considered by Mitrani is an amount of activin "sufficient to promote said healing so that said healing with reduced scarring is promoted."

Claims 20, 21, 25 and 29–31 are rejected under 35 U.S.C. 102(b) as being anticipated by De Kretser (U. S. Patent No. 5,196,192).

De Krester's activin appears to be identical or substantially identical to the activin used in the present claims. Therefore, the claimed properties or functions, i.e., "bind receptors similar to those bound by TGFβ3" (claim 31), are presumed to be inherent, and a prima facie case of either anticipation or obviousness has been established.

Applicant argues that:

> The disclosure of De Kretser et al is entirely silent as to doses of activin that are to be used. Given the lack of this teaching, the dose dependency discussed above and the evidence submitted herewith, De Kretser et al cannot be viewed as being inherently anticipatory. Accordingly, reconsideration is requested.

Applicant's assertion is based on the assumption that the scarring seen in Munz's (EMBO J. 1999 Oct 1;18(19):5205-15) transgenic animals is comparable to that that would seen upon the exogenous administration of activin to an animal that had not been previously exposed to activin. However, Munz's transgenic animal is continuously and chronically exposed to the activin over the life of the animal. All of Munz's experiments were performed with adult mice (10–14 weeks of age) (page 5207, paragraph bridging left and right columns). There is no evidence of record that continuous and chronic exposure to activin in utero and for 10-14 weeks thereafter is comparable to a single administration or even a few administrations over several days to an adult mammal not previously exposed to activin. Furthermore, there has been no direct comparison of the application of activin in the manner suggested by De Krester with the doses of exogenous activin taught in the examples of the present application. Therefore, applicant's arguments are not persuasive because, as noted by applicant, the effects of activin on scarring are dose dependent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20–21 and 26–27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitrani (U. S. Patent No. 5,753,612) as applied to claims 20–21 above, and further in view of Ferguson (WO 92/17206).

Claims 20–21 and 26–27 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Kretser (U. S. Patent No. 5,196,192) as applied to claims 20–21 above, and further in view of Ferguson (WO 92/17206).

Applicant argues that:

> The fundamental failings of Mitrani and De Kretser are detailed above. Nothing in Ferguson would have cured the deficiencies of the primary references. Reconsideration is, therefore, requested.

Applicant's arguments regarding the fundamental failings of Mitrani and De Krester are not persuasive, as discussed above.

New Formal Matters, Objections, and/or Rejections:

Information Disclosure Statement

The references lined through on page 1 of the information disclosure statement filed 08/22/2007 have been lined through because they are duplicates of references previously considered in a previously submitted information disclosure statement.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 32 encompasses a method of promoting the healing of any and/or all wounds or fibrotic disorders comprising administering Activin, wherein the Activin is administered by eye drops. The originally filed specification only discloses eye drops for corneal wounds or scarring (page 7, full paragraph 1). Therefore, claim 32 is broader than the originally filed disclosure, introduces new concepts, and violates the written description provision of 35 U.S.C. § 112, first paragraph. This is a new matter rejection.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 depends from a canceled claim, and thus makes no sense, since it is incomplete. The metes and bounds are not clearly set forth.

Claim 22 is directed to or encompasses "a partially modified form of activin having a longer half-life than its parent molecule." The specification provides the following, regarding partial modifications:

> Partial modification may for example be by way of addition, deletion or substitution of amino acid residues. A substitution may for example be a conserved substitution. Partially modified molecules may, for example, have a longer half-life than their parent molecule … . Paragraph bridging pages 2-3.

Because the specification does not identify that material element or combination of elements which is unique to, and, therefore, definitive of "a partially modified form of activin having a longer half-life than its parent molecule" an artisan cannot determine what additional or material limitations are placed upon a claim by the presence of this element. The metes and bounds are not clearly set forth.

Claim 31 recites "bind receptors similar to those bound by TGFβ3." The term "similar" in claim 31 is a relative term which renders the claim indefinite. The term "similar" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The metes and bounds are not clearly set forth.

Claim Rejections - 35 USC § 103

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitrani (U. S. Patent No. 5,753,612) as applied to claim 20 above, and further in view of Hayashi (U. S. Patent No. 5,145,680).

Mitrani discloses the treatment of wounds by administering activin, as discussed in the rejection of record. Mitrani's method can also be utilized to control proliferation of non-cutaneous epithelial cells, such as in conjunction with various corneal and other ocular

procedures (column 6, full paragraphs 1 and 5; paragraph bridging columns 7-8; paragraph bridging columns 15-16; column 16, full paragraph 1).

Mitrani also discloses the administration of activin in water or saline topically, orally, rectally, percutaneously, or by parenteral injection, as discussed above. The examiner has construed Mitrani's administration of activin in water or saline topically, orally, rectally, percutaneously, or by parenteral injection as administration by eye drops, as discussed above. If, however, administration of activin in water or saline topically, orally, rectally, percutaneously, or by parenteral injection is NOT construed as administration by eye drops, then eye drop formulations for the administration of medicaments to the eye are old and routine in the art. See, for example, Hayashi (column 1, full paragraphs 2, 6, 7; column 4, full paragraph 3). Hayashi does not teach administering an eye drop formulation comprising activin.

However, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to administer activin to control proliferation of non-cutaneous epithelial cells, such as in conjunction with various corneal and other ocular procedures, as taught by Mitrani, and to modify that teaching by administering an eye drop formulation, as is old and routine in the art, as evidenced by Hayashi, with a reasonable expectation of success. One of ordinary skill in the art would be motivated to make this modification in order to control proliferation of non-cutaneous epithelial cells, such as in conjunction with various corneal and other ocular procedures. The invention is prima facie obvious over the prior art.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitrani (U. S. Patent No. 5,753,612) as applied to claim 20 above, and further in view of Ferguson (GB 2 265 310 A).

Mitrani discloses the treatment of wounds by administering activin subcutaneously, as discussed in the rejection of record. Mitrani does not teach intradermal injection.

Ferguson discloses the treatment of skin wounds by subcutaneous and intradermal injection (page 8, last full paragraph). Ferguson does not teach the treatment of wounds by administering activin.

However, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to treat wounds by administering activin, as taught by Mitrani, and to modify that teaching by intradermal injection, as taught by Ferguson, with a reasonable expectation of success. One of ordinary skill in the art would be motivated to make this modification because intradermal injection is a useful technique for the administration of pharmaceuticals to wounds. The invention is prima facie obvious over the prior art.

Conclusion

No claims are allowable.

ANY INQUIRY CONCERNING THIS COMMUNICATION OR EARLIER COMMUNICATIONS FROM THE EXAMINER SHOULD BE DIRECTED TO DAVID S. ROMEO WHOSE TELEPHONE NUMBER IS (571) 272-0890. THE EXAMINER CAN NORMALLY BE REACHED ON MONDAY THROUGH FRIDAY FROM 9:00 A.M. TO 5:30 P.M. IF ATTEMPTS TO REACH THE EXAMINER BY TELEPHONE ARE UNSUCCESSFUL, THE EXAMINER'S SUPERVISOR, MANJUNATH RAO, CAN BE REACHED AT (571)272-0939.

IF SUBMITTING OFFICIAL CORRESPONDENCE BY FAX, APPLICANTS ARE ENCOURAGED TO SUBMIT OFFICIAL CORRESPONDENCE TO THE CENTRAL FAX NUMBER FOR OFFICIAL CORRESPONDENCE, WHICH IS (571) 273-8300.

CUSTOMERS ARE ALSO ADVISED TO USE CERTIFICATE OF FACSIMILE PROCEDURES WHEN SUBMITTING A REPLY TO A NON-FINAL OR FINAL OFFICE ACTION BY FACSIMILE (SEE 37 CFR 1.6 AND 1.8).

ANY INQUIRY OF A GENERAL NATURE OR RELATING TO THE STATUS OF THIS APPLICATION OR PROCEEDING MAY BE OBTAINED FROM THE PATENT APPLICATION INFORMATION RETRIEVAL (PAIR) SYSTEM. STATUS INFORMATION FOR PUBLISHED APPLICATIONS MAY BE OBTAINED FROM EITHER PRIVATE PAIR OR PUBLIC PAIR. STATUS INFORMATION FOR UNPUBLISHED APPLICATIONS IS AVAILABLE THROUGH PRIVATE PAIR ONLY. FOR MORE INFORMATION ABOUT THE PAIR SYSTEM, SEE HTTP://PAIR-DIRECT.USPTO.GOV. CONTACT THE ELECTRONIC BUSINESS CENTER (EBC) AT 866-217-9197 (TOLL-FREE) FOR QUESTIONS ON ACCESS TO THE PRIVATE PAIR SYSTEM,

/DAVID ROMEO/
PRIMARY EXAMINER
ART UNIT 1647

DSR
DECEMBER 21, 2007